

Low Cost, Cosmic Microwave Background Telescopes (P-NASA12-003-1), Phase II

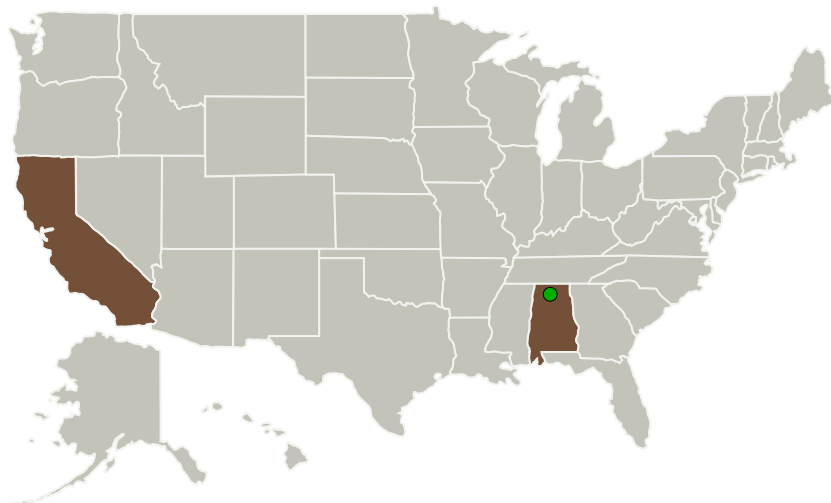
Completed Technology Project (2014 - 2016)



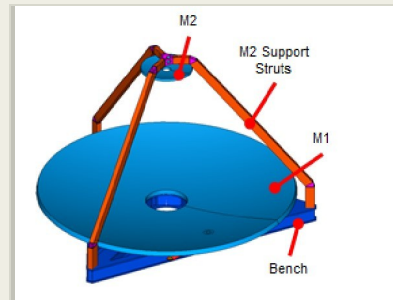
Project Introduction

Existing and proposed missions with ambitious science goals demand ever larger primary mirrors which, in turn, require the development of new light-weight, low-cost mirror technologies. For Phase 2, Vanguard Space Technologies (VST) proposes to deliver a 2.5 meter, composite, on-axis, telescope by building upon the success of the Phase I effort. The telescope will be suitable for use on the Super BLAST-pol mission. VST proposes building upon the success and leveraging the lessons learned from previous technology demonstration programs, leading to a successful CDR that includes a final design with budgeted errors, a detailed manufacturing plan, and a mature recurring cost model and estimate. A CDR package and one high efficiency telescope system will be provided during Phase II. The envisioned telescope system will feature 2X lower areal mass and comparable areal cost for Unit Two+ than BLAST. The Super BLAST-pol team at UPenn is committed to flight test this new technology on the maiden flight in 2016.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
Vanguard Space Technologies, Inc	Lead Organization	Industry	San Diego, California
● Marshall Space Flight Center (MSFC)	Supporting Organization	NASA Center	Huntsville, Alabama



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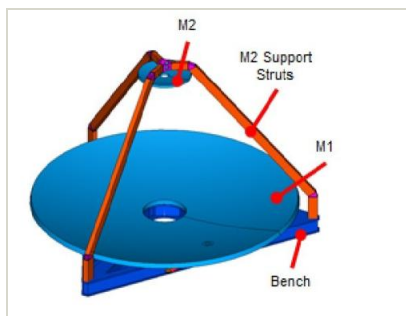


Primary U.S. Work Locations

Alabama

California

Images



Briefing Chart Image

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(<https://techport.nasa.gov/image/133608>)

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Organization:

Vanguard Space Technologies, Inc

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

Project Management

Program Director:

Jason L Kessler

Program Manager:

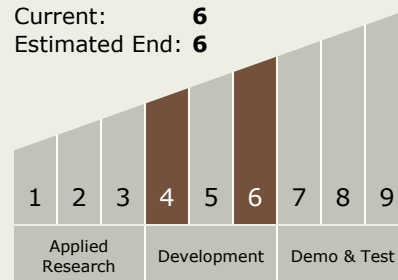
Carlos Torrez

Principal Investigator:

Dale Neverman

Technology Maturity (TRL)

Start: 4
Current: 6
Estimated End: 6



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Technology Areas

Primary:

- TX08 Sensors and Instruments
 - └ TX08.2 Observatories
 - └ TX08.2.1 Mirror Systems

Target Destinations

The Moon, Mars, Outside the Solar System, The Sun, Earth, Others Inside the Solar System